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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,989	07/13/2001	Neil A. Cooper	ATI.0100820	3444

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EXAMINER

CAO, DIEM K

ART UNIT PAPER NUMBER

2194

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,989

Applicant(s)

COOPER, NEIL A.

Examiner

Diem K. Cao

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-30 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10-14,16,18-22,31,35-36 is/are rejected.
- 7) ☒ Claim(s) 8,9,15,17 and 32-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1 and 3-36 are pending. Applicant has amended claims 1, 13, 15-17, 23 and 31 and cancelled claim 2.

Allowable Subject Matter

2. Claims 23-30 are allowed.
3. Claims 8-9, 15, 17, 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 3-7, 10, 13-14, 18-21, 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bondy et al (U.S. 5,491,813) in view of Keller et al (U.S. 5,752,032).**

6. As to claim 1, Bondy teaches loading device-independent driver code (graphic packages 56, 57, 58, col. 6, lines 7-17), wherein the device-independent code forms a first portion of a display driver (code which interacts with applications 51, 52, 53; col. 4, lines 27-42), receiving a device identifier associated with a particular device (Silicon Graphics, graPHIGS, col.4, lines 55-

Art Unit: 2194

58), identifying a particular device-specific driver portion (device specific code 81 or 82) from a plurality of driver portions associated with the device identifier (col. 4, lines 27-42), loading the particular device-specific portion (col. 6, lines 18-30 and 46-53), wherein the device-specific portion forms a second portion of the display driver (code which interact with display adapter A, B, ..., E, Figs. 1,2). See col. 2, lines 11-53; col. 4, line 18 – col. 5, line 45; col. 9, line 41 – col. 10, line 16.

7. However, Bondy does not explicitly teach loading the device-independent driver code and the particular device-specific driver portion into kernel mode memory, and requesting a device identifier after loading the device-independent code into kernel memory, wherein the requested device identifier is to identify a particular device. Keller teaches loading the device-independent driver code and the particular device-specific driver portion into kernel mode memory (kernel memory; col. 7, line 61 – col. 8, line 14), and requesting a device identifier after loading the device-independent code into kernel memory, wherein the requested device identifier is to identify a particular device (board identifier; col. 13, lines 5-20).

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Bondy and Keller because it provides a flexible, modular device driver architecture that can provide independent hardware configuration options on a dynamic reconfiguration basis (col. 3, lines 14-17).

Art Unit: 2194

9. As to claims 3, 4, 20, 21, 35, Bondy teaches the device identifier includes an application-specific integrated circuit identifier / a graphics chip identifier (Silicon Graphics Inc., GL, IBM graPHICGS, col. 4, lines 55-58)

10. As to claims 5, 6, 18, 19, Keller teaches device driver architecture, wherein a hardware-specific driver portion includes direct draw functions (DD 66), and direct 3D functions (68 including D3D; col. 7, lines 46-60)

11. As to claim 7, Bondy teaches calling a function to load a block of executable code in kernel mode memory (col. 5, line 62 – col. 6, line 6).

12. As to claims 10, 14, Bondy teaches the device-independent driver code includes two-dimensional graphics functions (2-D module 56).

13. As to claim 13, note discussion of claim 1, and note the equivalence of device-independent functions / device-independent driver code. Bondy further teaches device-independent functions are capable of supporting a plurality of different display devices (package 56 supports devices A, B, C, D represented by the respective adapters); a plurality of device-specific driver portions (device specific code; col. 4, lines 27-42), each only capable of supporting a portion of the plurality of different display devices (device specific code 81-84 support devices A, B, C, D respectively). Note claim 1 for second function to load and for kernel mode memory.

14. As to claim 31, it is a program product claim of claim 3, thus not claim 13 for discussion.

15. Claims 11, 12, 22 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bondy et al (U.S. 5,491,813) in view of Keller et al (U.S. 5,752,032) further in view of Schoening et al (U.S. 6,226,788).

16. As to claims 11, 12, 22 and 36, Schoening teaches device driver management, including locating a name associated with the device-specific driver portion in a table using the device identifier (device type value), comparing versions associated with functions of the device-specific driver portion to versions expected (device mapping table) through an application program interface (device mapper operations). See col. 16, line 50 – col. 17, line 59. Given the teaching of Schoening, one of ordinary skill in the art would have been motivated to include locating and comparing into Bondy as modified because this would have allowed new devices to be added without requiring revision of the applications (col. 3, lines 24-33).

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bondy et al (U.S. 5,491,813) in view of Keller et al (U.S. 5,752,032) further in view of Shirakabe et al (U.S. 5,136,709).

18. As to claim 16, Shirakabe teaches loading device drivers, including determining addresses associated with functions of the particular device-specific driver portion (col. 8, lines

27-53). Given the teaching of Shirakabe, one of ordinary skill in the art would have been motivated to include determining addresses into Bondy as modified because this would have provided independent configuration of the driver and the kernel (col. 10, lines 20-29).

Response to Arguments

19. Applicant's arguments with respect to claims 1 and 3-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K. Cao whose telephone number is (571) 272-3760. The examiner can normally be reached on Monday - Friday, 5:30AM - 2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for Patents

Application/Control Number: 09/904,989

Page 7

Art Unit: 2194

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Alexandria, VA 22313-1450

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Diem Cao



WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER